

## **REMARKS**

Applicants respectfully traverse and request reconsideration. The undersigned wishes to thank the Examiner for the Examiner interview of October 26, 2004 and the follow up interview of October 27, 2004. No agreement was reached. A summary of the substance of the interview is incorporated into the arguments with respect to the current rejections.

### **Allowable Subject Matter**

Claims 1 through 21 are pending. The Applicants wish to thank the Examiner for the allowance of claims 18 and 19 and for the notice that claims 4 through 6 and 13 through 15 would be allowable if rewritten in independent form, including all of the limitations of the base claim and any intervening claims.

### **Rejection of Claims under 35 U.S.C. § 103**

Claims 1 through 3, 7 through 12, 16, 17 and 21 are rejected under 35 U.S.C. § 103(a), based on U.S. Patent No. 5,040,130 (Chang) in view of U.S. Patent No. 5,040,130 (Morita).

The Office Action on page 4 acknowledges that Chang does not specifically disclose “filling only pixels in the portion of the primitive that is inside the screen region.” (Claim 1.) In response to arguments presented during the Examiner interview that Morita as shown in Fig. 13 and as described in Col. 8 fills portions both inside and outside of the primitive, Examiner Chung agreed that Morita appears to teach an opposite approach than the claimed “filling only portions of the primitive that are inside the screen region.” Nevertheless, the arguments presented during the Examiner Interview are summarized below.

The Office Action cites Morita at column 1, line 62 through column 2, line 26 and column 19, lines 1 through 4 as allegedly teaching “filling only pixels in the portion of the primitive that is inside the screen region.” However, the cited portion of Morita, which states, “wherein the corresponding table indicating which of the clip vectors each of the drawing vectors is clipped with is prepared before the filling and clipping are performed,” appears to merely describe that a table is prepared before filling and clipping rather than “filling only pixels in the portion of the primitive that is inside the screen region.” Instead, Morita teaches generating triangular areas called clipped vectors and filling rectangular drawing areas defined by drawing vectors. (Morita, col. 8, lines 5–26.) Morita explicitly teaches, as shown in FIG. 13, filling areas outside of the clipped areas 24, 26 and therefore

teaches filling pixels in the portion of the primitive that is outside the screen region. As shown in FIG. 13, Morita teaches a triangular area 24 defined by drawing command “clip A.” (Morita, col. 8, lines 5–9.) Triangular area 26 is defined by drawing command “clip B.” (Morita, col. 8, lines 9–11.) The two triangular areas 24 and 26 form a rhombic area 28, which becomes a clip area. Morita explicitly teaches filling three rectangular areas 30, 32 and 34 (shown in FIG. 13 as drawing areas A, B and C, respectively). As a result, Morita explicitly teaches filling the drawing areas (A30, B32 and C34), resulting in filling portions outside of both the clip areas 24 and 26, as well as the rhombic area 28 and therefore teaches filling pixels in the portion of the primitive that is outside the screen region. (Morita, col. 8, lines 19–22.) After filling drawing areas A30, B32 and C34 as taught in column 8, lines 19 through 23, Morita teaches producing a rhombic area 36 as the drawing result. (Morita, col. 8, lines 23–26.)

In contrast, Applicants claim a computer system for rasterizing primitives that fills only pixels in the portion of the primitive that is inside the screen region. As shown above, Morita explicitly teaches filling areas both outside of triangular clipped areas 24 and 26 as well as outside of the rhombic area 28 to produce the drawing result of the rhombic area 36. Further, as shown explicitly in FIG. 13 and in column 8, Morita describes first filling rectangular drawing areas A, B and C and then clipping to produce the rhombic area 36 as a drawing result. As a result, Morita fails to teach “filling only pixels in the portion of the primitive that is inside the screen region.” Applicants submit that Morita does not disclose, teach or suggest Applicants’ claimed subject matter.

Although the Office Action on page 4 acknowledged that Chang does not teach each and every element of the last step, which states “filling only portions of the primitive that are inside the screen region” Examiner Chung during the Examiner interview contradicted this statement. Examiner Chung equates the boundary defined area in Chang as the claimed primitive. However, Chang teaches the boundary defined area spans the XYZ planes. Since the Office Action equates the boundary defined area, described by Chang being within the XYZ plane, as the claimed primitive, Chang explicitly teaches filling pixels outside of the boundary defined area and therefore explicitly teaches the opposite of “filling only portions of the primitive that are inside the screen region” In other words, although the Examiner argues that Chang teaches clipping and filling the boundary defined area in the Z plane, since Chang teaches filling outside of the boundary defined area in the XY plane, Chang explicitly teaches filling outside of the boundary defined area. Stated another way, since the Chang reference, as best understood, teaches a boundary defined area in the XYZ planes, and since

the previous office action equates the boundary defined area as the primitive, then Chang's teaching of filling the boundary defined area in the XY plane and then clipping in the Z plane teaches filling in the area that is outside of the boundary defined area. As a result, Chang teaches filling outside of the boundary defined area and therefore teaches a method that is the opposite of "filling only portions of the primitive that are inside the screen region." Since the Examiner equates the boundary defined area to the primitive and Chang describes the boundary defined area in the XYZ plane, then Chang's teaching of filling any point outside of the boundary defined area necessarily teaches filling outside of the primitive and therefore does not teach, among other things the last step.

For these reasons, the combination of Chang and Morita fails to teach "filling only pixels in the portion of the primitive that is inside the screen region." Reconsideration of the rejection and a showing of all the elements, as arranged in claim 1, is respectfully requested. For the reasons stated above, the combination of Chang and Morita fails to describe each and every element as arranged in the claims and further is directed to a completely different type of structure and operation. Additionally, Chang and Morita teach away from the claims, including, among other things, "filling only pixels in the portion of the primitive that is inside the screen region." Applicants submit that Chang in view of Morita fails to establish a prima facie case of obviousness and therefore does not make obvious Applicant's claimed invention. Therefore, for at least the reasons stated above, it is submitted that the present rejection is improper and should be withdrawn. Reconsideration and withdrawal of the present rejections is requested.

#### **Claims 10 through 12, 16 and 17**

Applicants reassert the relevant arguments made above. Applicants further submit for at least the above reasons, that Chang does not disclose, teach or suggest, either explicitly or implicitly, Applicants' claimed subject matter, *inter alia*, "an output for supplying filled pixels for pixels in the portion of the primitive inside of the screen region." Applicants also submit, argued in part at least immediately above, that claims 10, 11, 12, 16 and 17 are allowable in light of the presence of novel and nonobvious elements that are contained in these claims that are not otherwise present in claim 1. Therefore, reconsideration and withdrawal of the present rejections is requested.

### **Dependent Claims 3, 7 and 8**

Applicants reassert the relevant arguments made above regarding claim 1 and those relevant arguments made in previous responses to Office Actions. Applicants submit that claims 3, 7 and 8 are allowable for at least the same reasons discussed above regarding claim 1. In addition, Applicants submit that, claims 3, 7 and 8 depend from claim 1 and, as such are allowable for the reasons claim 1 is allowable. Applicants further submit that claims 3, 7 and 8 are also allowable in light of the presence of novel and nonobvious elements contained in claims 3, 7 and 8 that are not otherwise present in claim 1. Therefore, reconsideration and withdrawal of the present rejections is requested.

### **Dependent Claim 21**

Claim 21 recites, among other things, “wherein filling only pixels in the portion of the primitive that is inside the screen region ends when all pixels within the portion of the primitive inside the screen region is filled.” However, the Office Action acknowledges on page 4 that Chang does not specifically disclose filling only pixels in the portion of the primitive that is inside the screen region. Consequently, Chang cannot teach “wherein filling only pixels in the portion of the primitive that is inside the screen region ends when all pixels within the portion of the primitive inside the screen region have been filled.” Applicants reassert the relevant arguments made above. Dependent claim 21 is also allowable in light of the presence of novel and nonobvious elements contained in claim 21 that are not otherwise present in claim 20. Therefore, reconsideration and withdrawal of the present rejections is requested.

**Conclusion**

It is respectfully submitted that claims 1 through 3, 7 through 12, 16 and 17 are allowable as written. Applicants respectfully submit that the claims are in condition for allowance and respectfully request that a timely Notice of Allowance be issued in this case. The Examiner is invited to contact the below-listed attorney at 312-609-7970 if the Examiner believes that a telephone conference will advance the prosecution of this application.

Respectfully submitted,

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